DK-003-001420 Seat No. _____

B. Sc. (Sem. IV) (CBCS) Examination

March – 2022

MB-401 : Analytical Techniques and Bioinformatics

(Old Course)

Faculty Code : 003

Subject Code : 001420

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) Numbers written on right indicate marks.
(2) Please write answers in correct order.
(3) Draw diagrams wherever necessary.

SECTION - I

1 Objective type Questions : **20**

(1) _____ converts analytes into free atoms in flame spectrophotometer.
(2) 1 KB = _____ Bytes
(3) Define: bioinformatics.
(4) Define: Blotting
(5) Define: chromatography
(6) Enlist the various components which are used in laboratory first aid kit ?
(7) Give the full form of ISP and HID.
(8) Give the full form of VNTR and RFLP.
(9) In chemical degradation method, which chemical used for cleavage at Guanine?
(10) Range of visible light is in between _____
(11) The concept of biosensor was given by _____ scientist.
(12) The speed of migration of ions in electric field depends upon _____

(13) What are the advantages of DBMS?
(14) What is DNA profiling?
(15) What is HTML?
(16) What is PIR?
(17) What is the nature of stationary phase in reverse phase chromatography?
(18) Which compound is used as catalyst for polymerization of polyacrylamide gel?
(19) Which Radioisotopes used for sterilization of food packets and surgical instruments?
(20) Write the uses of DNA Fingerprinting.

SECTION - II

2 (A) Answer in short : (Any **3** from 6) **6**

(1) Define monochromator and give its components.
(2) What are exclusion limits of gel?
(3) What is nebulizer? Give its function.
(4) Give the steps of DNA profiling.
(5) What is Operating system?
(6) Define: proteomics.

(B) Answer the following : (Any **3** from 6) **9**

(1) Write a brief note on instrumentation of spectrophotometer.
(2) Explain various chemicals that are used in Maxam's DNA sequencing method with its role.
(3) Write a brief note on FISH.
(4) Write a brief note on E-Mail.
(5) Explain ENTREZ.
(6) Give the application of bioinformatics?

(C) Answer the following : (Any **2** from 5) **10**

(1) Write a note on NCBI.
(2) Explain the various parts of window.
(3) Explain in detail PCR.
(4) Explain in detail paper electrophoresis
(5) Explain in detail HPLC.

3 (A) Answer the following : (Any **3** from 6) **6**

(1) What are the advantages of AAS over emission photometry?

(2) List out the names of detectors used in gas liquid chromatography.

(3) Give the difference in between Manual and Automatic Sequencing.

(4) Explain in brief components of biosensor.

(5) Define modem and give its application.

(6) Give the outline of classification of biological databases.

(B) Answer the following : (Any **3** from 6) **9**

(1) Explain the applications of radioisotope.

(2) Write a brief note on PFGE

(3) Give advantages of TLC over paper chromatography.

(4) Explain blotting technique that is used for the protein.

(5) Write a short note on classification of computers.

(6) What is BLAST? State its various types.

(C) Answer the following : (Any **2** from 5) **10**

(1) Explain in detail drug discovery.

(2) Explain in detail Emission spectrometry.

(3) Explain in detail M.S.Excel.

(4) Explain in detail Sanger's DNA sequencing method.

(5) Explain in detail NMR
